UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,856	10/24/2001	Sanjive Agarwala	TI-28982	7440

23494 7590 03/16/2005

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
HUYNH, KIM T	

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,856	AGARWALA ET AL.	
	Examiner	Art Unit	
	Kim T. Huynh	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the request filed on 18th of February 2005 for a request for continued examination (RCE) under 37 CFR 1.114 based on the application No. 10/003,856, which the request is acceptable and an RCE has been established. Currently, claims 1-15 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Robertson et al. (US Patent 6,496,740)

As per claims 1,8, Robertson discloses a data transfer controller comprising:

- a request queue controller (fig.5, 520, ie Hub included queue controller) capable of receiving, prioritizing and dispatching data transfer requests each specifying a data source, a data destination and a data quantity to be transferred; (col.15, lines 15-20)

- a data transfer hub (fig.5, 520, ie Hub) connected to the request queue controller for receiving dispatched data transfer requests; (col.15, lines 21-22)
- a plurality of ports(fig.5, 530-533, ie external port) having an interior interface(fig.5, 530-533, ie interface unit) connected to the data transfer hub (fig.5, 520, ie hub) which is so configured as to be the same for each port and an exterior interface configured for an external memory/device which, in operation, is connected to said port, the interior interface and the exterior interface being connected for data transfer therebetween; (col.15, lines 23-30)
- at least one transfer requestor node(fig.5, 570-572, ie IMP node) connected to said request queue controller (fig.5, 520, ie queue manager) and capable of supplying a data transfer request to said request queue controller; (col.11, lines 10-25, ie requests from node 570-572 connected to queue manager 520 capable transfer data to ports 530-533)
- wherein the data transfer hub being capable of controlling data transfers from a source port corresponding to the data source to a destination port corresponding to the data destination in quantities corresponding to the data quantities to be transferred under a currently executing data transfer request; and (col.15, lines 31-35)
- wherein at least one of said plurality of ports consists of an active data port connected to said request queue controller capable of supplying a

data transfer request to said request queue controller specifying a data source, a data destination and a data quantity to be transferred. (col.11, lines 9-26), (col.12, lines 43-55), (col.6, lines 21-40, ie, request controller 300 receiving, prioritizing, and dispatching data out to ports. The read data from one data port 350 having a destination write address of port 353 is returned to the hub destination control pipeline through router 360, wherein selected control line is implies active port)

As per claims 2, 9, Robertson discloses wherein: said active data port capable of generating a data transfer request specifying said active data port as said data destination; wherein said data transfer hub generates a read command to said data source and transfers read data to said active data port. (col.11, lines 9-26), (col.12, lines 43-55)

As per claims, 3, 10, Robertson discloses wherein: said data transfer hub generates a pre-write command to said active data port prior to transferring said read data to said active port; (col.9, lines 34-45) and said active data port generates an acknowledge signal to said data transfer hub following receipt of said pre-write command when said active data port is ready to receive data. (col.8, lines 53-67)

As per claims 4, 11, Robertson discloses wherein: said active data port capable of generating a data transfer request specifying said active data port as said data source; wherein said data transfer hub generates a read command to said active data port and transfers read data to said data destination. (col.11, lines 9-26),

(col.12, lines 43-55)

As per claim 5, Robertson discloses wherein: said interior interface of said active data port supplies a read data command to said exterior interface of said active data port in response to read data command of said data transfer hub. (col.9, line 46-col.10, line 18)

As per claims 6, 12, Robertson discloses wherein: said interior interface of said active data port includes a first-in-first-out buffer; (col.15, lines 47-60) said exterior interface writing data into said first-in-first-out buffer upon generation of said data transfer request by said active data port; (col.8, lines 22-67) and said interior interface supplying data read from said first-in-first-out buffer upon receipt of said read command from said data transfer hub. (col.8, lines 22-67)

As per claims 7, 13, Robertson discloses wherein: said interior interface of said active port generates a stall signal to said exterior interface of said active port when said first-in-first-out buffer is full; (col.14, lines 48-55) and said exterior interface refrains from writing data into said first-in-first-out buffer upon receipt of said stall signal. (col.10, lines 42-45)

As per claims 14, Robertson discloses the data transfer controller further comprising:

- A plurality of transfer request nodes (fig.5, 570-572, ie external ports) disposed in a chain having an upstream most node and a downstream most node, said downstream node connected to said request queue controller; (col.9, line 61-col.10, line18, wherein 1st one on the buffer

implies upstream most node and last one on the buffer implies downstream most node)

- A plurality of transfer requestor nodes each capable of generating service requests and each connected to a corresponding one of said plurality of transfer request nodes; and (col.7, line 64-col.8, line 33)
- A special transfer request node connected to said upstream most node of said plurality of transfer request nodes and said active port said special transfer request node connecting said active data port to said request queue controller(fig.5, 520) via said plurality of transfer request nodes. (fig.5, 570-572, ie external ports) ,(col.7, line 64-col.8, line 33, ie, each request type each has special transfer request)

As per claim 15, Robertson discloses the method of data transfer wherein Said step of receiving, prioritizing and dispatching data transfer requests is performed by a request queue controller;(col.10, lines 41-50) further comprising the steps of:

Transferring data transfer requests from each of a plurality of transfer requestor nodes to said request queue controller via a chain of a plurality of transfer request nodes having an upstream most node and a downstream most node, said downstream node connected to said request queue controller; and(col.9, line 61-col.10, line18, wherein 1st one on the buffer implies upstream most node and last one on the buffer implies downstream most node)

Response to Amendment

4. Applicant's amendment filed on 2/18/05 have been fully considered but does not place the application in condition for allowance.

a. In response to applicant's argument that the recite subject matter not anticipated by Robertson, "wherein at least of said plurality of ports consists of an active data port connected to said request queue controller capable of supplying a data transfer request to said request queue controller specifying a data source, a data destination and a data quantity to be transferred". Examiner respectfully disagrees. As Robertson notes at col.6, lines 21-40, discloses a request controller 300 receiving, prioritizing, and dispatching data out to ports. The read data request from one data port 350 having a destination write address of port 353 is returned to the hub destination control pipeline through router 360, wherein selected control line is implies active port. Thus, the prior art teaches the invention as claimed and the amended claims do not distinguish over the prior art as applied.

b. In response to applicant's argument that Robertson includes no teaching regarding ports and no teaching that a port is connected to both the data transfer hub and the request queue manager. Examiner respectfully disagrees. As Robertson notes at figure 5, col.11, lines 10-25, ie transfer request 545 is capable of supplying data transfer request from nodes 570-572 connected to hub 520 included queue manager 520 and there it is capabled of transferring data to ports 530-533.

Thus, the prior art teaches the invention as claimed and the amended claims do not distinguish over the prior art as applied.

Conclusion

5. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571)272-3635 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 9.00AM- 6:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached at (571)272-3632 or via e-mail addressed to [mark.Rinehart@uspto.gov].*

The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.

Kim Huynh

March 11, 2005

TIM VO
PRIMARY EXAMINER